IOP NEWSLETTER 25

INTERNATIONAL ORGANIZATION OF PALAEOBOTANY

INTERNATIONAL UNION OF BIOLOGICAL SCIENCES
-SECTION FOR PALAEOBOTANY
President: Prof. W.G. CHALONER, UK
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Secretary: Dr. M. C. BOULTER
N. E. London Polytechnic,
Romford Road,
London, E15 4LZ, England.

NOVEMBER 1984

PLEASE MAIL NEWS AND CORRESPONDENCE TO YOUR REGIONAL REPRESENTATIVE OR TO THE SECRETARY FOR THE NEXT NEWSLETTER 26. The views expressed in the newsletter are those of its correspondents and do not necessarily reflect the policy of IOP.

IOP NEWS

ACKNOWLEDGEMENTS FOR 2 IOP CONFERENCE

Mike Folsom and Steve Downie are graduate students at the University of Alberta and worked particularly hard to organise and run both the field trip and the conference. Two sheets of acknowledgemnts to them and many other individuals and institutions were issued to participants and copies are available from the IOP secretary. T.N. Taylor and R.A.Stockey were the chief organisers and achieved enormous respect from all the 220 and more participants for their greatly successful work. There were 105 members on the field trip, which was particularly memorable.

2 IOPC MEMORABILIA

Some of the items which were given to the registered participants are still available and can be purchased from R.A. Stockey, Department of Botany, University of Alberta, Edmonton, Alberta, Canada T6G 2E9. Make cheques payable to "IOP Conference". 2IOPC shirts (large or extra-large) C$17.00; Joffrea and Archeopteris shirts (small or medium) C$7.00 each; 2IOPC lapel pin badges C$3.00; field trip guides C$5.00; abstracts and programme C$5.00.

S. Chitaley, Cleveland Museum of Natural History, Wade Oval, University Circle, Cleveland, Ohio 44106, USA wrote two sides of verse in appreciation to the organisers of the field trip. Copies are available from her or from the IOP secretary.

IOP EXECUTIVE MEETING, Edmonton, August 24th 1984

6 of the 9 committee members were present. They agreed the principle that IOP should attempt to meet close in time and space to each International Palynological Conference. It was noted that this implies that IOP Conferences should become established and regular events, away from the International Botanical Congress. It was agreed that the consequences of this for the IOP Constitution should be discussed at the next formal IOP General Assembly, in Berlin in 1987. Members of IOP should sent their comments and arguments to the IOP secretary.

IOP BUSINESS MEETING, Edmonton, August 25th 1984
The 73 people present at the meeting were given the opportunity of commenting on the routine operation of the organization and the short discussion drew no serious complaints of the Executive Committee's operations. That committee's deliberations of the day before (see above, page 1) were discussed and approved.
The role of angiosperm palaeobotany was discussed and it was agreed that the International Association of Angiosperm Palaeobotany should amalgamate with IOP, forthwith.
The meeting heard a report from F. Schaarschmidt, Frankfurt, on the arrangements for palaeobotany at the forthcoming International Botanical Congress in Berlin in 1987.

3 IOP CONFERENCE, Australia, 1988
Adhering to the principle of close association of IOPC and IPC the next IOPC will take place in Australia during August/September 1988. IOP's Regional Representative in Australasia is Dr Jack Douglas, Department of Minerals and Energy, 140 Bourke Street, Melbourne VIC 3001, Australia, and he hopes to distribute the First Circular for this conference in 1985, as part of an IOP Newsletter.

REPORT OF A RECENT MEETING

3 CONGRESO LATINAMERICANO DE PALEONTOLOGIA, Mexico, 14-8 October 1984
140 participants including 30 palaeobotanists (from Argentina, Brazil, Mexico and individuals from Australia, Denmark, Japan, USA and USSR) spent 1½ days together, of which one day was devoted to a symposium on the Floras of Latin America, organised by Reinhard Weber. Some of the contributions were of floras from other parts of the world. The 15 papers which were presented at the meeting form the bas of a publication to be issued in early 1985. But all were pre-published and this thick volume can be obtained from Dr B.E. Buitron, Instituto de Geologia, UNAM. A post-congress excursion was led by R. Weber and attended by 4 palaeobotanists for 4 days. Many impressive rich sites were visited.

J. Rigby, Brisbane, Australia.

NEWS OF FORTHCOMING MEETINGS

SYSTEMATIC & TAXONOMIC APPROACHES IN PALAEOBOTANY, London, March 31-April 3, 1985
This meeting is being organised by B.A. Thomas and R. Spicer, Life Sciences Department, Goldsmiths' College, Creek Road, London SE8 3BU, England, from whom the First Circular is available.
On Sunday 31st March there is a field trip to the Tertiary fruits and seeds on the Isle of Sheppey. The conference follows with ½ day each on Taxonomic Problems due to Preservation, Levels of Available Information, Approaches above the Generic Level, Taxonomy & Plant Classification in a Dynamic Evolutionary Context & the Cases for Alternative Taxonomic Approaches, Palaeobotany and the Code.
Registration costs £10 and a single room with breakfast costs £11 a night.
The Second Circular is now available with full details of the programme.

22ND GENERAL ASSEMBLY, INTERNATIONAL UNION OF BIOLOGICAL SCIENCES, Budapest, 1985.
This is from September 1st - 7th and the First Circular is avaiable from Prof J. Salanki, Biologia, Tihany, Hungary H-8237. There are to be four scientific symposia, one of which is on "Biological Complexity".

7TH INTERNATIONAL PALYNOLOGICAL CONFERENCE, Brisbane, Australia, August 1988.
The International Federation of Palynological Societies (formerly ICP) has approved that this will be the venue of the 7IPC. The organisers are anxious to take advantage of the closeness of 3IOPC and some kind of joint sessions may be arranged. Please send your comments to Jack Douglas.

INTERNATIONAL BOTANICAL CONGRESS, Berlin, 24th July - 1st August 1987
A new list of titles of symposia concerning palaeobotany has been supplied by Dr F. Schaarschmidt, Forschungsinstitut Senckenberg, Senckenberganlage 25, 6000 Frankfurt 1. These will be detailed in the second circular which should be available in the summer of 1985.

1. The Procaryotes, fossil record and evolutionary trends.
2. Systematics of green algae with special attention to the ancestry of land plants.
3. How to correlate the systematics of fossil and recent pteridophytes.
4. Spores of pteridophytes.
5. Systematics, evolution and ecology of early land plants.
6. Evolution of early seed plants.
7. Early fossil angiosperms: reproductive structures and evolution.
8. Southern hemisphere fossil floras.
9. The forests of the Mesophytic period.
10. Changes of plant cover and environment during the Tertiary.
11. Quaternary vegetation history.
12. Evolution and the fossil plant record.
13. Modern methods of botany: methods for geochemical and infrastructural investigation of fossil plant remains.

In addition, three palaeobotanical field trips are in preparation:
1. A general field trip through the Rhine area (Devonian, Carboniferous, Cretaceous and Tertiary). The Main organiser is: Dr V. Mosbrugger, Geol.-Palaont. Institut, Nussallee 8, D-5300 Bonn.
2. A more specialised field trip through the Tertiary of southern Germany. The organiser is: Dr H.-J. Gregor, Hans-Sachs-Str. 4, D-8031 Grobenzell.
3. A field trip in Poland. The organiser is: Leon Stuchlik, Polska Akademia Nauk, Istytut Botaniki, 31-512 Krakow, Lubicz 46, Poland.

ANGIOSPERM PALAEOBOTANY

The International Association for Angiosperm Palaeobotany (IAAP) was formed in 1974, and grew rapidly with the enthusiasm of its members for their common interest in fossil angiosperms. In 1977 the members of the association organised the highly successful meeting at Liblice Castle in Czechoslovakia. Angiosperm palaeobotanists met again in 1980 at the IOP meeting in Reading, England, and in 1984 at the IOP meeting in Edmonton, Canada. From 1974 to 1980 the IAAP published a newsletter which was welcomed by members around the world.

In 1981 the president and the editor of the IAAP resigned their offices. In the absence of replacements the secretary/treasurer, Bruce Tiffney, carried on, publishing two newsletters and seeking a solution to the survival of the IAAP. A poll of the membership revealed that very few of the nearly 200 registered members were interested in or committed to actively helping to continue the organisation. Personal discussion between the secretary/treasurer and several members revealed a general feeling that the IAAP had served its function as a stimulus for angiosperm palaeobotany, and that it should be disbanded.

For this reason, the secretary/treasurer called for a meeting of IAAP members at the IOP meeting at Edmonton, to discuss the future of the association. The same widespread lack of committment to the organisation which characterised the earlier poll of the membership was seen at the Edmonton meeting. Thus, while several members lauded the past success of the IAAP and supported its continuation, the majority vote was to disband the IAAP. The existing funds of IAAP will be turned over to IOP.

This action does not signal the end to communication between angiosperm palaeobotanists. The IOP Executive Committee has agreed to encourage contributions concerning angiosperms in the IOP Newsletter. To aid this Drs M. Collinson (London) and B.Tiffney (USA) will ensure a continuous flow of angiosperm material to the editor of the IOP Newsletter. They are its "angiosperm correspondents".

The success of this venture depends directly upon the participation of IOP members interested in angiopserms. We rely upon you to provide us with material for inclusion in the newsletter, and upon you to tell us what things you wish to see included in the future. Some, but by no means all, of the things we hope to hear from you include:

- news of people in the field
- news of research programmes under way in your laboratory
- news of new students or colleagues in the field
- news of local or regional meetings where angiosperm palaeobotany is discussed
- news of publications (books or articles) which appear in sources which have limited circulation
- news of interesting fossils or localities, if these are not going to be published soon
- views and ideas which you wish to lay before your colleagues but which are of the nature of a friendly discussion rather than a professional publication.

We also assume that we can assist in projects of interest to angiosperm palaeobotanists. For example, we may be able to provide assistance in organising future meetings or in producing reference tools of use to our colleagues. One project already suggested is that we update the existing IAAP file which listed the interests of angiosperm palaeobotanists (originally published in IAAP Newsletters 1 and 2). Further, we can try to act as a "clearing house" or referral service to assist colleagues with questions about angiosperm fossils. We may be somewhat slow in our response to individual questions as we may have to exchange letters between ourselves before reaching a conclusion.

Will New World angiosperm palaeobotanists please send their contributions for the newsletter to Tiffney (Department of Biology OML, Yale University, Box 6666, New Haven, CONN 06511-7444, USA) and Old World ones to Collinson (Department of Plant Sciences, King's College London, 68 Half Moon Lane, London SE24 9JF, England).

B.H. TIFFNEY, Yale, USA.

NEW LIST OF ANGIOSPERM INTERESTS & RESEARCH

As explained above there is a desire to update the list of interests of angiosperm palaeobotanists, building upon the original membership of the IAAP. The new list will be available as an IOP Circular. If you wish to be included in this list and have not received a questionnaire in the final mailing to IAAP members, please provide the following information and mail it to Dr M. Collinson at the above address. Please type your response.

- name and address
- research field key words. Select from the following list which words best describe your interests:
  organ: woods, leaves, pollen, fruits & seeds, flowers, reconstructed plants, debris.
  theme: evolution, taxonomy & nomenclature, systematics, palaeoecology, palaeoclimates, biostratigraphy, palaeobiogeography, techniques, phylogeny.
  coverage: large assemblages (floras), specific families or genera, individual taxa without particular systematic affiliations.
  age: pre-Cretaceous, Lower Cretaceous, Upper Cretaceous, Palaeogene, Neogene, Quaternary.
- availability of reference collections: if you have or are developing a modern reference collection, or have access to an established one, please give brief details.
- research field specialist statement: provide a concise statement of current research projects and interests. Do not exceed 30 words.

Please type single spaced on white paper and use a line length of 17cms. Type your name one line above the statement, starting at the left margin. The statements will be reproduced just as they are received.

B.H. TIFFNEY, Yale & M. COLLINSON, UK.

GAMOHETEROTOPY - A PROBABLE PROCESS IN THE MORPHOLOGICAL EVOLUTION OF HIGHER PLANTS

Attempting morphological (semophylogenetic) derivations we usually admit as self-evident that the separate derivation series should be set for male and female fructifications. This is a reasonable approach, but I am not sure that it is universally tenable. Recently, a hypothesis came to my mind that in some cases a

character transfer from one sex to another may occur. In animals, this phenomenon is well known. It was mentioned by Darwin, and Schmalhausen in his "Factors of Evolution" (1968) devoted 20 pages to its treatment in the context of stabilising selection. Schmalhausen has provided very interesting and quite convincing examples of the transfer. For instance, in Hyaena crocuta female genitals remarkably simulate male ones (clitoris simulates penis, and even a scrotum is present although filled with a fatty mass). Schmalhausen specially underlined the saltational nature of the transfer.

To simplify the discussion that follows I suggest a new term - gamoheterotopy - for the intersexual transfer of characters. Since the gamoheterotopy is regularly happening in animals, I see no reason to exclude a priori ITS POSSIBLE OCCURENCE IN PLANTS AS WELL. With this hypothesis I mentally went through unisexual fructifications of higher plants. I have found some cases which may be, quite tentatively, affiliated with the gamoheterotopy. The best example is provided by the Upper Palaeozoic Cordaitanthales, including the Angaran Vojnovskyaceae and Rufloriaceae (see the relevant descriptions in my paper published in Bot. Rev., 50, 1-111, 1984). The presumed ancestors of the Cordaitanthales are the Lower Carboniferous Lagenostomales producing seed-bearing cupules and terminal sporangia (or synangia) on leafless branching axes. In the Cordaitanthales the female fructifications are strobiloid: there is a central axis bearing spirally attached (or in 4 rows) bracts with axillary polysperms. The male fructifications are either strobiloid (Cordaitanthaceae) or profusely branched as in lagenostomans (Vojnovskyaceae - genus Kuznetskia, and presumably older members of the Rufloriaceae). The derivation of the branched pattern from the strobiloid one appears to me impossible. Hence I conclude that the Vojnovskyaceae have inherited the microsporo-clad structure from the lagenostomans. On the other hand, the Vojnovskyaceae produced female fructifications of the same basic structure as in the Cordaitanth-aceae. A conclusion seems inevitable that the oldest members of the Cordaitanthales, ancestral to both the Cordaitanthaceae and Vojnovskyaceae were more similar to the latter family albeit the ancestral microsporoclads should have been less reduced than those of Kuznetskia.

If so, we can admit that the strobiloid architectonics of male fructifications of the Cordaitanthaceae is a secondarily acquired character. Considering that such architectonics first appeared in the female fructifications, I conclude that male fructifications have borrowed their architectonics from female ones.

In the Rufloriaceae the same process might have occured in the Late Permian. In Pechorostrobus and associated polysperms the basic structure is remarkably similar - the long axis bears an involucre of sterile scales in its lower portion, and spirally attached microsporangia or seeds upwards. Obviously this similarity between the male and female fructifications is also secondary. The major difference between the three families of the order lies in the architectonics of the male fructifications. If my reasoning is correct, the gamoheterotopy was among the major factors responsible for the rise of these families.

Among the more hypothetical cases of the gamoheterotopy theory I can mention the appearance of strobiloid male fructificatjons in cycads and the bracts subtending male strobili in more advanced conifers. Finally, there is the most intriguing possibility. Imagine that the microsporophyll structure of Williamsonia coronata has been gamoheterotopically transferred to the female portion of the fructification. The resulting organ would show cupulate seeds adaxially attached to scaly appendages. From this organ only one step is necessary (the infolding of the scale) to form a primitive follicle. Besides, the bennettites exhibit a number of important common features with angiosperms (I mention only that Homoxylon used to be placed within the angiosperms). In my paper in Botanical Reviews I tried to show that the angiosperm ancestry should be sought among the radiospermic gymnosperms. In the pre-Cretaceous Mesozoic floras only bennettites and cycads are radiospermic.

I would be grateful if anybody can show me literature in which the gamoheterotopy in plants is demonstrated.

S.V. MEYEN, Moscow, USSR.

NOMENCLATURE OF EARLY CONIFERS

In February and March 1984 three papers appeared whose authors independently concluded that the widely adopted Views of Florin on the morphology and systematics of the Lebachiaceae (Lebachia, Ernestiodendron and Walchiostrobus) need serious corrections. These three publications are those of Clement-Westerhoff (Rev. Palaeobot. Palynol., 41, 1/2,51-166); Mapes & Rothwell (Palaeontology, 27,1, 69-94); Meyen (Bot. Rev.,50, 1, 1-111). Clement-Westerhoff is right in her interpretation. She maintains that Florin mistook leaf-like seed stalks for seeds. In her opinion, the seeds were attached subapically and abaxially to the stalks. Mapes & Rothwell described Lebachia lockardii n.sp. with hooked seed stalks bearing apically attached seeds. They maintain that Florin's L.piniformis is basically of the same structure. I disagreee with the latter statement, but their reconstruction of L.lockardii is correct. Simply, this new conifer is essentially different to L.pinniformis and deserves a separate generic name.

Clement-Westerhoff and I independently concluded that Florin mistook apical portions of seed stalks having seed scars for erected seeds in both Ernestiodendron and Walchiostrobus. The number of seed stalks on each axillary shoot in E. filiciforme is uncertain, but in W. gothanii, W. fasciculatus and W. sp.A of Florin, unlike his reconstructions, several seed stalks were arranged into a single plane, basically fused, and the seed scars (again mistaken by Florin for nucelli of erect seeds) were subapical. The fused seed stalks form a primitive seed scale similar to that of Pseudovoltzia (as reconstructed by Walton and Schweitzer, not Florin). The very presence of the primitive seed scale in Ernestiodendron and Walchiostrobus allows their affiliation with the Voltziaceae. Other early conifers - Lebachia, "L." lockardii and Ortiseia (as described by Clement-Westerhoff) - can be retained within the Lebachiaceae.

Here, however, we are faced with two serious nomenclatural problems. Having established the genera Lebachia and Ernestiodendron and the family Lebachiaceae, Florin suggested the use of the generic name Walchia for those conifers that were less well studied. Unfortunately, Walchia has its own type species which cannot be used as a basionym for another generic name. In Andrews' "Index of Generic Names" the type species of Walchia and the basionym of Ernestiodendron is the same - W. filiciformis. Hence, the name Ernestiodendron should be rejected and replaced by Walchia. This has been done by W. and R. Remy in their "Die Flora der Erdaltertums" (1977). Clement-Westerhoff has shown, however, that the typification of Walchia in Andrews' Index is erroneous, because the type species W. piniformis was selected by Miller in 1889. Accordingly, the name Ernestiodendron is legitimate and Lebachia should be abandoned. The family name Walchiaceae also has the priority.

Clement-Westerhoff's arguments are undisputable. But I do not think that the principle of priority should be applied to both Lebachia and Lebachiaceae. These names are widely used in the world literature, including textbooks of both botany and palaeobotany. Article 7.14 of the International Code of Botanical Nomenclature allows conservation of these names. According to this Article the type species of Walchia may be changed to W. filiciformis. Then the name Ernestiodendron would become abandoned. This would not be a serious loss because the name Walchiostrobus is available for the fertile remains of the same plants. This means that the binomial Walchia filiciformis can be retained for sterile shoots only, and the bulk of the genus Walchia sensu Florin can also be retained.

If we do not change the type species of Walchia, as suggested above, the nomenclatural complications will be enormous. The fructification structure known as W. piniformis (i.e. Lebachia) cannot be ascribed to other species of the genus Walchia. Clement-Westerhoff excluded such species from the genus, but it is not clear where to place them. Many of the species are placed in floristic lists and their names cannot be corrected. I do not think that all this supports the stability of nomenclature as intended by the principle of priority. Namely, due to this, the Code permits us to change the type species and to conserve widely adopted names.

S.V. MEYEN, Moscow, USSR.

HUNT INSTITUTE FOR BOTANICAL DOCUMENTATION

Henry N. Andrews writes from Laconia, New Hampshire:
"It is my impression from inquiring among numerous colleagues that many of them are not acquainted with the unique and extensive botanical resources of the Hunt Institute at Carnegie-Mellon University in Pittsburgh, Pennsylvania, USA. My purpose in writing this note is to call attention to the Institute's collection of portraits of botanists.
"Most botanists with an interest in the history of their science will occasionally wonder what some of their colleagues of the past looked like. And I submit that it adds much interest and meaning to one's science if they know something of the lives of the men and women who laid the foundations on which we build. For my own part I became interested in the Institute's work when I was working on a palaeontological-biographical work, "The Fossil Hunters" that was published in 1980.
"Where does one go for a portrait of a botanist to be used in a publication, or just as a matter of interest? The following quote from the Institute's introductory brochure offers the best answer that I know of: "Since its founding, the Institute has actively sought portraits and biographical information for every plant scientist; in so doing we have now increased the Portrait Collection to nearly 21,000 prints, paintings, drawings and photographs representing some 15,000 botanists, botanical artists, horticulturists, and others in related fields."
"This may encourage palaeobotanists to send photographs of their colleagues and thus help to continue building the collection. Private collections of photographs or portraits of our fellow botanists may or may not be available to others who need them as they may be scattered through various museum libraries and collections, or they may find their way into an attic to simply gather dust. I suggest that for the good of all concerned the Hunt Institute is a more preferable place of deposition. For additional information concerning the Hunt Institute's collections and services write to: Dr M.T. Stieber, Hunt Institute for Botanical Documentation, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213, USA."

OBITUARIES

FRANTIŠEK HOLÝ 1935-1984

At the beginning of August, the gifted Czech palaeobotanist RNDr F. Holý CSc, died tragically. He was a specialist in Tertiary Palaeocarpology.
He was born on November 3rd 1935 in Jičín and finished his studies at the Charles University in 1958, to begin his professional career as a palaeontologist in geological prospecting. This allowed him to gather much material from the Tertiary and Cretaceous of the Bohemian Massif. In 1964 he was appointed Keeper of the palaeontological collections at the National Museum in Prague. There, he started his palaeocarpological research as well as his extensive museum and cultural activities. In 1976, under the supervision of Professor Nemejc, he presented his CSc thesis on "Neogene Mastixioid Flora of the Upper Coal Seam Zone from the Open-cast Mine at Kristina (Hrádek n. Nisou)". Parts of this were published in 1977 and 1978. Together with his friends he was a joint author of several papers dealing with Tertiary plants: Stratiotes (1966), Platanus (1967), Doliostrobus (1968), Limnocarpus (1981), Buxus (1982) and studies in the Tertiary vegetation of Czechoslovakia (Cas. min. geol. 30).
He was also interested in archaeobotanical research.
He was an excellent collector, a keen observer with a wide range of interests and knowledge. We all, who knew and loved him, who shared his humour and good spirit, can hardly believe he is no longer with us.

Z. KVACEK, Praha, Czechoslovakia.

PETER BARNARD

"On July 12th 1984, Dr Peter D.W. Barnard ...died at peace having borne his disability with great fortitude. Donations, if desired for the R.B.H. Renal Fund may be sent to the Royal Berkshire Hospital, Reading, Berks.", England. (Daily Telegraph, London, July 17 1984) A full obituary will appear in the next IOP newsletter.

VÁCLAV HAVLENA 1928-1984

Czechoslovak Carboniferous palaeobotany lost an outstanding specialist, Associate Professor Dr Václav Havlena DrSc, who died suddenly on June 28th 1984 in the middle of his active research work. He belonged to those workers who knew how to apply knowledge of fossil plants to problems of stratigraphy, geology and petrology.
He was born on July 2nd 1928 in Nový Bydžov and studied at the Charles University in Prague and worked there until his death. In 1961 he was made Associate Professor of ore deposits. Besides his research work he was an excellent teacher. His "Geology of Coal Deposits" (1963-5) is one of the most valuable texts in the field. Geologists interested in coal geology always liked to attend his seminars and excursions. He worked in the IUGS Subcommission for Carboniferous and Permian Geology, attended international congresses on Carboniferous stratigraphy and also worked in the IGCP Project 166.
Dr Havlena studied all the problems of coal deposits and therefore could only give a small part of his time to palaeobotanical research. Besides his taxonomic studies on Neuropteris, Alethopteris, Mariopteris and Calamites he was also interested in the palaeofloristic conditions of the Upper Silesian Basin and in the palaeoecology of Carboniferous vegetation. Czechoslovak science has suffered a great loss by his premature death.

Z. KVACEK, Praha, Czechoslovakia.

NEWS OF INDIVIDUALS

HERMANN W. PFEFFERKORN is now at the Geologosch-Palaontologisches Institut, Universität Heidelberg, Im Neuenheimer Feld 234, 6900 HEIDELBERG.

JOHN E. BENNETT is now at ARCO Alaska Inc, PO Box 100360, Anchorage, Alaska 99510.

HARLAN P. BANKS has been awarded an honourary DSc by Dartmouth College in June 1984. D.T. McLaughlin gave an address at the ceremony and quoted H.P.B. as saying of young professors who disdain teaching undergraduates and who assert that no one can both teach and do research: "I think you can do both, I think you're hired to do both, and I think you ought to do both because you love it." He was also quoted as saying: "Questioning and thinking are relevant to any man's life and career. The asking and answering of questions is what research is all about and it is what education should be all about."

JOHN RIGBY is half way through a world tour from Brisbane, Australia. He is visiting Edmonton, Calgary, Ohio, Mexico, London, Portugal, Paris, Prague and other places.

WILLIAM G. CHALONER has moved again to another part of the same university - The University of London. (The address is permanent but the name of the college(s) is not.) He is at the Botany Department, Royal Holloway & Bedford Colleges, Egham Hill, Egham, Surrey TW20 0EX, UK.

VOLKER WILDE is currently working on a thesis about the Eocene leaf flora at Messel. He is at the Senckenberg Museum with F. Schaarschmidt.

ZLATKO KVACEK of the Geological Institute of the Czechoslovakian Academy of Sciences has moved to 182 09 Praha 8, V. Holešovičkách 41.

BRITTA LUNDBLAD, Swedish Museum of Natural History, will retire from the professorship in palaeobotany at the end of November 1985. She recently received an official letter from the Swedish Ministry of

Education with the pleasant news that the Government admits the professorship to be re-filled without a change of its scope.

DUAN SHUYING from the Institute of Botany Academia Sinica, Peking, will come to Sweden in October 1984 and spend a year in Stockholm.

BIBLIOGRAPHY

INTERNATIONAL BIBLIOGRAPHY OF PALAEOBOTANY & PALYNOLOGY
The last four years have seen us produce, print and distribute this International Bibliography. We have shown that it can be done easily and quickly and that there is interest for such a product. We now need an evaluation. Should it be continued? Would it work better if the actual printing and distribution could be done through the regional palaeobotanical sections and associations? Is there a clear need for such a bibliography or are existing less specific or regional bibliographies sufficient? If continued as at present, a postage fee will have to be provided by the recipients. Please let us know what you think.

H.W. PFEFFERKORN, Geol.-Paläont. Inst., Univ. Heidelberg, Im Neuenheimer Feld 234, 6900 Heidelberg, West Germany.
W.H. GILLESPIE, 916 Churchill Circle, Charleston, Wv 25314, USA.

BIBLIOGRAPHY OF BRITISH PALAEOBOTANY & PALYNOLOGY 1982-3
This regular publication is now available from Dr G. Creber, Royal Holloway/Bedford Colleges, Egham Hill, Egham, Surrey, TW20 0EX. Include £2 to pay for air mail postage.

BOOK REVIEWS

PLANT LIFE IN THE DEVONIAN. P.G. Gensel & H.N. Andrews, 1984. Praeger Scientific Press, 380pp.

This work is an up-to-date compilation of studies bearing upon the origin and early evolution of land plants, and as such is a broader treatment than indicated by the title. Important content that transcends the expected boundaries of the title includes an analysis of possible terrestrial plant remains from late Ordovician and Silurian deposits, and a summary of permineralized Lower Carboniferous gymnosperm remains. The book is organized into 12 chapters, with the information divided relatively evenly between treatments of major taxonomic groups (rhyniophytes, trimerophytes, zosterophyllophytes, lycophytes, sphenopsids, fern-like plants, progymnosperms, gymnosperms) and broader conceptual topics such as the "invasion of the land", the "origins of diversity", the origin of heterospory, palynology and Devonian floras. The text presents a strong historical perspective, with important workers and the development of modern concepts explained with clarity. There is liberal use of direct quotations from primary sources which present accurately the interpretations of others.
Each taxonomic group is characterised through the description of selected representations. These have been chosen largely because they are the most completely known examples, and reference is made to more extensive compilations from the literature. Each plant is described separately under a title that is in the form of a binomial. In each case the binomial is followed by the author and the date. However, if it was the intention of the authors for these to represent nomenclatural authorities, many are incorrectly rendered. Most descriptions are quite complete and are supplemented by a large number of high quality and informative illustrations and reconstructions. I found the descriptions of complex structural features to be confusing at several places. For example, the description of Rhacophyton includes the following: "The stem bore organs that are referred to as vegetative fronds which are arranged in two vertical and alternating rows on each side. These are essentially two-dimensional, each bearing two rows of primary branches which in turn bore two rows of secondaries that vary considerably in their branching patterns, some being nearly monopodial and others essentially dichotomous." (page 177).

The contents of each chapter are introduced at the beginning and summarized at the end. This is probably an effective study aid for those who have no previous experience with the material, but I was frequently distracted by a feeling of deja vu. Also of aid to the student will be the chapter explaining stratigraphic correlations of the fossils and the classification system employed. These features make the book applicable for supplementing introductory courses in plant evolution and systematics, as well as a valuable summary for the more experienced student of plant phylogeny.

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EXTRA: FRENCH GROUP'S VISIT TO THE USSR (see IOP Newsletter 24, page 8)

L. Grauvogel-Stamm and J. Doubinger, Strasbourg, have sent more details of their recent visit to the USSR.

"The last two weeks of the trip were spent in Moscow at the Geological Institute of the Academy of Sciences. Professor V.A. Vakhrameev and Dr M. Doludenko showed them some Liassic fossil plants from the Irkutsk Basin and from Tadjikistan. Dr Mogutcheva came specially from Novosibirsk for a week to examine with them a rich Triassic flora from Tunguska and to discuss its age and correlation. With Dr E. Obonitskaya of the Geological Survey, Moscow, they saw the palynological assemblages corresponding to this flora. Dr G.N. Sadovnikov (Geological Survey) and Dr I. Dobruskina showed them some Triassic lycophyte genera, Tomiostrobus from the Kuznetsk basin and Pleuromela from the Volga, the Far East, from Pamir and from the Caspian Sea. Their relation with the genus Annalepis was discussed. Dr M. Durante showed them a Permian flora of Northern China (Nanshan) which she has just studied. With Dr S.V. Meyen they saw some interesting new conifers from the Upper Permian of the Timan Range and a genus from the Peltaspermaceae, Tatarina. They also compared the stomatal structures of Voltzia and Quadrocladus. With Dr O. Jaroshenko they examined Triassic palynological assemblages from several parts of Angaraland (Moscow basin, Timan and Petchora). All this interesting material lead them to constructive and instructive palaeogeographical and phytogenetical discussions."